

REMARKS

Favorable reconsideration of this application is respectfully requested in view of the above amendments and following remarks. Claims 1-6 were examined, and claims 7-10 are considered withdrawn from consideration. Claim 1 is amended and supported, for example originally presented claims and in the Examples. Claims 2-4 are canceled without prejudice or disclaimer. No new matter has been added. Claims 1 and 5-10 are pending.

Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Kogen et al. (US 5,451,688). Claims 1-6 also are rejected under 35 U.S.C. 102(b) as being anticipated by Sankyo (JP 59-175450). Applicants respectfully traverse these rejections to the extent they are maintained.

Claim 1 is directed to a compound that has been limited to the potassium and calcium salts of formulas (II) and (III), where W is limited to the second and third values. Claim 5 is specifically limited to the potassium salts of the compounds of claim 1, and where each of the R groups is methyl. Kogen et al. does not disclose or suggest the features of claims 1 and 5. Rather, Kogen et al. describes producing specific compounds of formulae X, XI, and XII using pravastatin as a starting material. However, the Kogen et al. compounds of X, XI, and XII do not satisfy claims 1 and 5, as the reference does not disclose or suggest the specific compounds of claim 1 or the specific compounds of claim 5. Thus, claims 1, 5, and 6 are distinguished from Kogen et al.

Moreover, Kogen et al. provides no reasonable suggestion for modifying its compounds to satisfy claims 1 and 5 for at least the following reasons. As to small molecule statin compounds, the essential biological activity is attributed to the chiral open-ring β -hydroxy-carboxylic acid forms. However, such open-ring β -hydroxy-carboxylic acids lack stability, so a majority of small molecule statin compounds are prepared in the form of a pro-drug as a 6-member ring inner ester. Most of such pro-drugs are metabolized to substances without biological activity, such as when carrying out hydroxylation and ring-opening reaction in human body. As a result, clinical applications have shown that higher drug administration is required, which can lead to a harmful effect such as striated muscle injury.

However, Applicants have found that the small molecule statin compounds may be transformed to metal salts of chiral open-ring β -hydroxy-carboxylic acids, namely the potassium and calcium metal salts of the specific compounds claimed, so as to overcome such drawbacks. After research, Applicants have further found that the potassium and calcium salts of chiral open-ring β -hydroxy-carboxylic acids can be crystallized for purification, and are better suited for use as drugs rather than their counterpart sodium salts. For example, the potassium salts of the formula (II) is shown to be a most active substance, and enjoys a significantly lower inhibiting constant K_i of 7.3 (see Example 2) than the sodium salts of such compounds (see inhibiting constant K_i of 17.7 Example 3). One problem is that sodium salts of chiral open-ring β -hydroxy-carboxylic acids can hardly crystallize for purification, so they are not suitable for drug usage. Another reason for avoiding sodium salts lies in that statin compounds are administered to patients with symptoms of high blood sugar, high blood fat, and high blood pressure. Sodium should be avoided for the reason that sodium has been known to contribute to such symptoms as high blood sugar, high blood fat, and high blood pressure. However, potassium and calcium salts are capable of adjusting the balance of potassium and calcium can help for lower blood fat.

Moreover, Applicants have demonstrated that the inhibiting constant K_i of formula II has a smaller inhibiting constant than the inhibiting constants K_i of several substances, which shows a stronger inhibiting effect the other substances (see Table and explanation at page 11 of the specification). Such a smaller inhibiting constant K_i means a lower dosage of the compound is needed, which can result in less harmful effects to a subject. However, Kogen et al. does not realize such benefits discovered by Applicants, because the reference does not disclose or suggest the specific compounds claimed and does not provide any reasonable basis to modify its compounds to satisfy claims 1 and 5.

Regarding Sankyo, the reference does not disclose or suggest the specific compounds of claim 1 or the specific compounds of claim 5. Rather, Sankyo describes a compound ML-236A capable of 3- or 6-hydroxylation, which does not satisfy claims 1 and 5. Thus, claims 1, 5, and 6 are distinguished from Sankyo. Applicants respectfully submit that claims 1, 5, and 6 are allowable over Kogen et al. and Sankyo for at least the foregoing reasons.

Favorable reconsideration and withdrawal of the rejections are respectfully requested.

In view of the above amendments and remarks, Applicants believe that the claims are in a condition for allowance. Favorable consideration in the form of a Notice of Allowance is respectfully solicited. If any questions arise regarding this communication, the Examiner is invited to contact Applicants' representative listed below.



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Respectfully submitted,

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